# THE BED

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16. Abstract

This editorial discusses some of the pathological effects of bed rest on the patient: the heart's work production increases by 30% in the prone position; autonomic nervous control of vascular tonus is curtailed; excretion of calcium and nitrogen increases; incontinence is often found in older patients. Recent considerations about the therapeutic value of bed rest, and a re-evaluation of its efficacy, will give rise to changes in hospital planning.

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# THE BED

Clinical medicine is bound in word and deed to the bed. In /289* word because the Greek word from which it is derived, kline, means bed. And in deed because the success of a physician is judged by his behavior and proficiency at the bedside. We express the size of hospitals in terms of the number of beds they have, and the seniority of specialists can be determined most often by the number of beds under their care. Often an illness that does not require bed rest will not qualify for sick-leave benefits. The first reaction of an ill or injured person is in fact to lie down, and upon admission to a hospital, the patient is routinely confined to bed until the physician explicitly agrees that the patient may be allowed to get up.

According to Asher [1], however, bed rest must never be acceptable as routine. It must be prescribed, just like digitalis or morphine, since the side-effects might be just as dangerous as the indiscriminate use of any new-fangled remedy. He also emphasizes the fact that physicians must re-evaluate their opinions of bed rest in light of newer developments. Thus, for example, Illingworth [2] doubts the value of bed rest for the four general childhood illnesses: measles, chicken pox, mumps, and German measles. Often when we consider iatrogenic disorders, and even suspect the traditionally safe aspirin, it is particularly odd that the general prescription, namely bed rest, is seldom discussed.

Bed rest as a form of therapy acquired its scientific recognition when in 1863 John Hilton published his essay, "Rest and Pain." Critics have explained that "no one before or since has ever preached the gospel of rest so refreshingly, so effectively or so convincingly as John Hilton." The fundamental drift of the work is that joints affected by arthritic pain require rest. The

*Numbers in the margin indicate pagination in the foreign text.

principle was also successfully applied to tuberculosis at the beginning of this century, when fresh air, good food and rest had to be used in place of today's streptomycin, INH and para-amino-salicylic acid. Rest was also promoted through such procedures as pneumothorax, thoracoplasty and contusion of the N. phrenicus [3].

The dangers of bed rest were first evidenced in the geriatric patient, since the older person's resistance to noxious influences is less than that of the younger person. Unfortunately, it is still standard practice that on any important occasion the nurse will pack the patients in her ward back into their beds like dishes into a cupboard. It is, however, encouraging that in the past few years the bed as a form of therapy has been critically re-evaluated. We are all familiar with the dangers of aspiration pneumonia, deep venous thrombosis, lung embolism and bed sores as complications of prolonged bed rest.

Work physiologists contend that maximal oxygen uptake of patients with myocardial infarction diminishes in proportion to the duration of imposed bed rest. The work production of the heart increases by 30% when the patient assumes the prone position, and we know that after prolonged bed rest the patient's autonomic nervous control of vascular tonus is curtailed such that syncopy generally appears when the patient stands. For this reason there is today a tendency to attend to patients in a chair rather than in a bed [4].

The toddler is taught from the start not to pass urine or feces in a reclining position. With illness in the aged, however, we expect that this life-long taboo will be thrown overboard and the patient will relieve himself in this way. For a stout person, balancing on the bedpan requires as much energy as would be used by a circus tightrope walker; one considers, then, how

much rest actually occurs. It need not amaze us that after a period of bed rest the aged patient is incontinent. After just 4 days in the reclining position, the excretion of calcium increases. The position of the kidney is such that the calyx lies lower than the renal pelvis, and kidney stones can readily be formed. Constipation as a complication of bed rest is well known, and the habit of using laxatives is often acquired in the hospital [3].

The excretion of nitrogen increases after 4 days in bed to reach a maximum after 2 weeks. If the patient at this stage is mobilized, it takes a month before the body regains a positive nitrogen balance. The amount of nitrogen thus lost agrees with a loss of 4 pounds of muscle tissue [3].

The misshaping of joints, which like bed sores is a result of prolonged bed confinement, is largely prevented by good and devoted nursing care, but the danger of complications is directly proportional to the duration of bed confinement.

Often we tend to overlook the psychic results of bed rest. But we do know how the bed-ridden patient is restless at night and requires sedation in order to sleep. A half hour or so in a chair often can replace the nighttime sleeping pill. The various ways in which mobilization after a period of bed rest supports a patient morally can hardly be exaggerated, and it also protects against the resignation with which so many chronic patients accept their lot. It rouses new spirit and cooperation with the nursing staff when we get such a patient out of his bed.

Recent considerations about the therapeutic value of bed rest according to Asher [1] will give rise to changes in hospital planning. Thus a dormitory with a comfortable sitting room and walkway will possibly characterize the hospital of the future.

Before it can happen, however, physicians and nurses must learn that bed rest must only be prescribed with forethought and must never be accepted as a self-evident necessity. We shall also have to realize that much of the success of modern methods can be attributed to the fact that bed confinement of patients has been shortened.

In conclusion, we must all learn to see the bed-ridden patient with the eyes of Asher: "Look at the patient lying in bed. What a pathetic picture he makes. The blood, clotting in his /280
veins, the lime, draining from his bones. The scybala, stacking up his colon, the flesh rotting from his sweat. The urine leaking from his distended bladder, and the spirit, evaporating from his soul!" [1]. Then we shall all learn to say to the patient the words of the Great Physician: "Take up thy bed and walk."

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2. Illingworth, R., ibid. 4, 41 (1967).

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4. Browse, N.L., The physiology and pathology of bed rest, Springfield, Ill., Charles C. Thomas, 1965.